

Pinworm Infection

What are pinworms?

Pinworms are white, parasitic worms that can live in the large intestine of humans. They are about one-half inch long. While the infected person sleeps, female pinworms leave the intestinal tract and lay their eggs on the skin around the anus. The eggs are laid in a sticky, jelly-like substance that, along with the wriggling of the female pinworm, causes severe itching.

Who gets pinworm infection?

Pinworm is the most common worm infection in the United States. School-age children, followed by preschoolers, have the highest rates of infection. Cases of pinworm infection are seen most often at schools, day care centers and other institutional settings.

What are the symptoms of a pinworm infection?

Pinworm infection may cause:

- Itching around the anal area, difficulty sleeping and irritability.
- If it is a severe infection, symptoms may include
 - nervousness
 - restlessness
 - loss of appetite
 - weight loss
 - girls may experience vaginal itching and irritation (vaginitis), if pinworms are near the vagina.

How does someone get pinworms?

Pinworms are spread when an infected person, most often a child, has scratched his/her bare anal area and the eggs get under his/her fingernails. Pinworms can then be spread in the following ways:

- By an infected child not washing hands after using the bathroom. If the child then touches playmates or play toys, he/she may pass on the eggs.
- Pinworm eggs can also be transferred to the fingers from clothing or bedding, and then spread around the home.
- Eggs may be inhaled from the air or deposited onto food and swallowed.
- Pinworms can survive up to two weeks on clothing, bedding or other objects, if kept at room temperature.

The eggs may hatch while still attached to the skin around the anus. They then move through the rectum to the lower intestine, where they grow to adult size within two to six weeks. Pinworm infections can be spread as long as either worms or eggs are present.

How is a diagnosis of pinworm infection made?

Finding the female worm or the eggs confirms the diagnosis of pinworms. To find a female worm:

- At night, the adult worms can sometimes be seen directly around the anal area or in pajamas. The worm (one-quarter to one-half inch long) is clearly visible to the naked eye. Finding a worm confirms the diagnosis.
- If adult worms are not visible, conduct a tape test in the morning. Apply a piece of transparent tape against the folds of skin around the anus to pick up any eggs or worms. Seal in a plastic bag.
- Take the tape to a health care provider. The eggs and worms caught on the tape can be identified under a microscope.

Pinworms are rarely spotted in stool samples. Because bathing or a bowel movement can remove the eggs, **the tape test should be done as soon as the person wakes up in the morning.**

How is a pinworm infection treated?

Treating pinworms involves either prescription or over-the-counter drugs. Consult a health care provider before treating a suspected pinworm infection. Follow these treatment steps:

Step 1: Treat the infected person/any infected family members

1. The infected person should take the medicine orally. It is given in two doses. The second dose should be given two weeks after the first.
2. Bathe first thing in the morning to reduce egg contamination.
3. Wash hands and under the fingernails thoroughly, after using the bathroom, before eating and after changing diapers.
4. Discourage nail biting and scratching bare anal areas to avoid re-infection.
5. Keep fingernails trimmed very short.
6. Infection often occurs in more than one family member. Treat all infected family members at the same time.

Step 2: Treat the household

- Change and wash underwear and pajamas in hot water daily.
- Machine-wash sheets, blankets, towels and clothing in hot water to destroy eggs. Machine-dry at high temperature.
- Eggs are sensitive to sunlight, so open blinds in bedrooms in the daytime.
- Since pinworm eggs are light and scatter easily, dust should be removed carefully from all surfaces in the home. Careful vacuuming, or the use of an oiled cloth (which may be boiled or destroyed later), will help prevent the eggs from scattering.

How can pinworm infection and re-infection be prevented?

- Wash hands and under fingernails frequently.
- Encourage children to avoid scratching their bare anal areas.
- Pinworm eggs continue to be present (excreted) in the feces of an infected person for up to a week after the treatment, so precautions should be taken to prevent re-infection by washing hands thoroughly, especially under the nails.
- Bathe daily.
- Change and wash clothing and bedding frequently.

What if the pinworm infection occurs again?

If infection occurs again, consult your health care provider. In some cases, it may be necessary to treat the patient and close family contacts more than once.

For more information, contact your local health department or visit the U.S. Centers for Disease Control and Prevention Web site at <http://www.cdc.gov/ncidod/dpd/parasites/pinworm/default.htm>.

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